Former Fort Ord Operable Unit Carbon Tetrachloride Plume Data and Status

HTW BCT, March 6, 2018

February 2018 Key Events for OUCTP

- February 14: EW-OU2-09-180 VFD and PLC back plate replaced, fiber optic cables adjusted, and well restarted.
- February 21: 7th Annual Habitat Restoration and Monitoring Meeting. Presented results of Year 1 follow-up survey at OUCTP EISB Deployment Area 3A and Year 2 follow-up survey at 2015 well installations in FONR.

March 2018 Key Events for OUCTP

- Coordinate with JV on first temporary shutdown at Abrams/Imjin during construction, which will affect operation of EW-OU2-09-180.
- Coordinate with JV on second temporary shutdown at the OU2 GWTP during construction, which will affect operation of EW-OU2-09-180.
- March 5-9: First Quarter 2018 Groundwater Monitoring Program including OUCTP EISB Deployment Area 3A monitoring.
    - Sample MW-BW-30-A downgradient of MW-BW-26-A due to increasing CT concentrations.
    - Sample annual well MP-BW-31-292 due to historical seasonal peak in first quarter events (will not be sampled in third quarter).
- Prepare for 2018 well decommissioning of five OUCTP A-Aquifer monitoring wells and three OUCTP Upper 180-Foot Aquifer monitoring wells.
- Prepare for 2018 well installation of four OUCTP A-Aquifer monitoring wells, two OUCTP Upper 180-Foot Aquifer monitoring wells, and one OUCTP Lower 180-Foot Aquifer monitoring well.
- Monitor reference site to determine 2018 HMP annuals monitoring time frame.
    - Year 3 at 2015 well installation locations (final monitoring event).
    - Year 2 at EISB Deployment Area 3A.
    - Baseline survey at FONR well installation and decommission locations.

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Table 1: OUCTP Well Decommissioning 2018*

Well ID	Aquifer	FONR	Notes
MW-BW-62-A	A	No	Well installed in 2003. Last sampled in 2009, CT always below ACL, currently used for DTW but not needed.
MW-BW-64-A	A	No	Well installed in 2003. Last sampled in 2013, CT below ACL since 2006, currently used for DTW but not needed.
MW-BW-68-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-69-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-70-A	A	No	Well installed in 2004. SVE well not screened in aquifer, not sampled or used for DTW.
MW-BW-20-180	Upper 180	No	Well installed in 1998. Last sampled in 2003, CT always ND, currently used for DTW but not needed.
MW-BW-22-180	Upper 180	No	Well installed in 1998. Last sampled in 2009, CT ND since 2006, currently used for DTW but not needed.
MW-BW-29-180	Upper 180	Yes	Well installed in 2000. Last sampled in 2009, CT always below ACL, currently used for DTW but not needed.

Table 2: OUCTP Well Installation 2018

Tentative Well ID	Aquifer	FONR	Notes
MW-BW-93-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-94-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-95-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-96-A	A	Yes	Location may be adjusted due to presence of sensitive plant species
MW-BW-57-180	Upper 180	No	
MW-BW-58-180	Upper 180	No	
MW-BW-59-180	Lower 180	No	

Notes:
* Sampling no longer conducted and water levels unnecessary as listed in the OUCTP Annual Report.
ACL: aquifer cleanup level
CT: carbon tetrachloride
DTW: depth to water
FONR: Fort Ord Natural Reserve
SVE: soil vapor extraction

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Legend

- Groundwater Divide
- Groundwater Elevation (ft MSL) 2017-3Q
- Carbon Tetrachloride (0.5 ug/L) 2017-3Q
- Roads
- FONR Boundary
- Existing Wells
- 2018 New Wells

N

0 250 500 1,000 Feet

OUCTP A-Aquifer
New Monitoring Wells
To Install in 2018

Well Installation
Work Plan
Former Fort Ord, California

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Figure:

1

MP-BW-46
MW-BW-53-180
MW-BW-47-180
MW-BW-52-180
MW-BW-51-180
MW-BW-57-180
MP-BW-42
MW-OU2-64-180
MW-BW-58-180
MW-BW-50-180
MW-BW-49-180
MW-BW-56-180
EW-OU2-09-180
MP-BW-41
MW-OU2-67-180
MW-OU2-70-180
BIKE LANE
MARINA PUBLIC AIRFIELD
RESERVATION RD
BAILEY CT
WITTENMYER CT
BANDHOLTZ CT
BROWN CT
WAHL CT
LANDRUM CT
ARNOLD CT
PRESTON DR
HORN CT
STEWART CT
READY CT
LEXINGTON CT
IMJIN PKWY
TRENTON CT
PRINCETON CT
BUNKER HILL DR
SARATOGA CT
ABRAMS DR
YORKTOWN CT
COMBS CT
WARRELMAN CT
THOMAS CT
-12
-14
Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

Legend

- Groundwater Elevation (ft MSL) 2017-3Q
- Carbon Tetrachloride (0.5 ug/L) 2017-3Q
- Roads
- FONR Boundary

Well Type

- Existing Extraction Well
- Existing Multi-Port Well
- Existing Monitoring Well
- 2018 New Monitoring Well

N

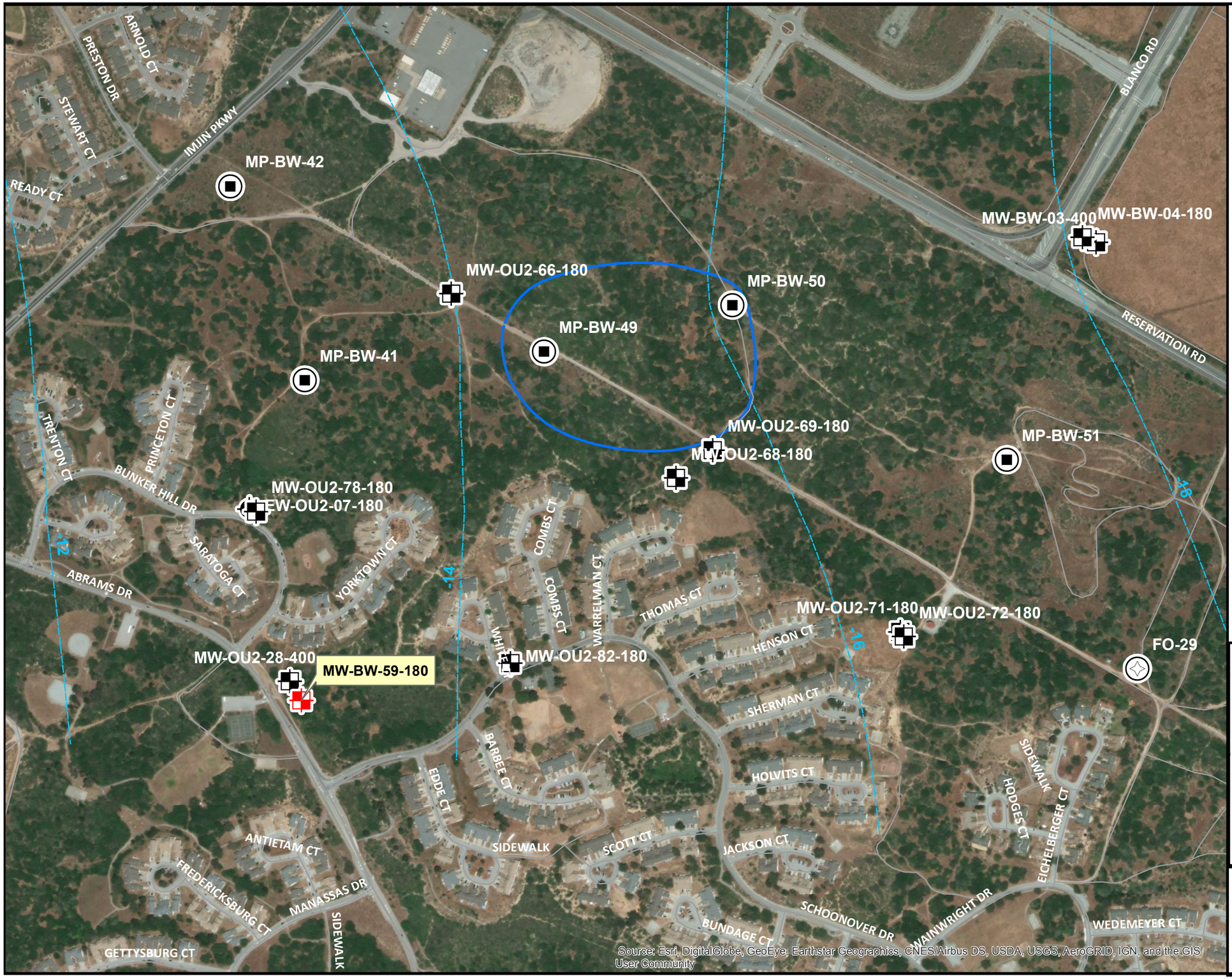
0 250 500 1,000 Feet

OUCTP Upper 180-Foot Aquifer
New Monitoring Wells
To Install in 2018

Well Installation
Work Plan
Former Fort Ord, California

Ahtna

Figure:
2



Legend

- Roads
- Carbon Tetrachloride (0.5 ug/L) 2017-3Q
- Groundwater Elevation (ft MSL) 2017-3Q

Well Type

- Existing Extraction Well
- Existing Supply Well
- Existing Multi-Port Well
- Existing Monitoring Well
- 2018 New Monitoring Well

N

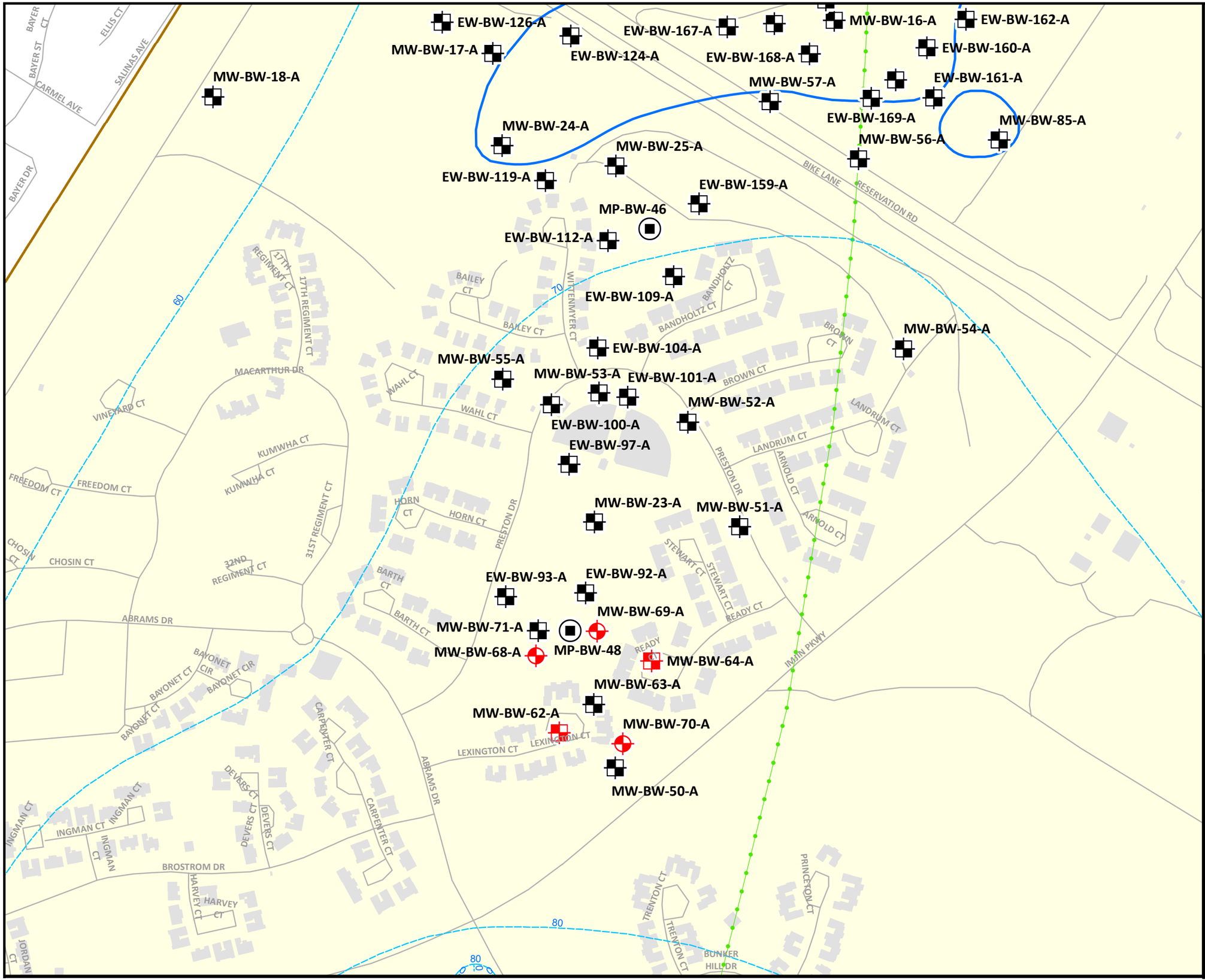
0 250 500 1,000 Feet

OUCTP Lower 180-Foot Aquifer
New Monitoring Well
To Install in 2018

Well Installation
Work Plan
Former Fort Ord, California

Ahtna

Figure:
3



Legend

- Groundwater Divide
- Roads
- Groundwater Elevation (ft MSL) 2017-3Q
- Carbon Tetrachloride (0.5 ug/L) 2017-3Q
- Former Fort Ord Boundary
- OU2 Landfills
- Buildings

A-Aquifer Well Type

- Multi-Port Well (Westbay)
- Monitoring Well
- Monitoring Well - To Decommission
- SVE Well - To Decommission

N

0 200 400 800 Feet

OUCTP A-Aquifer Monitoring Wells and Soil Vapor Extraction Wells to Decommission in 2018

Well Decommissioning
Work Plan
Former Fort Ord, California

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Figure: 3

MW-BW-54-180
MP-BW-37
MP-BW-30
MW-BW-26-180
MP-BW-32
MW-BW-29-180
MW-BW-55-180
MW-BW-43-180
MW-BW-20-180
MW-BW-21-180
MP-BW-33
MW-BW-22-180
MW-BW-44-180
MW-BW-45-180
MP-BW-46
MW-BW-53-180
MW-BW-52-180
MW-BW-47-180
MW-BW-51-180
MP-BW-42
MP-BW-35
ANDREW CIR
DIANA PL
EDNA CT
LYNSCOTT DR
LELIA PL
CRIVELLO RD
FOREST CIR
BAYER ST
MARSAN CT
LAVELL CT
ALBERT WAY
BAYER CT
ELLIS CT
SALINAS AVE
CARMEL AVE
LEWIS PL
BARRET LN
BAYER AVE
ALEXIS CT
BOSTICK AVE
BAYER DR
RIDGEVIEW AVE
NEESON RD
E ST
BIKE LANE
RESERVATION RD
-8
-10
-12
WITTENMYER CT
17TH REGIMENT CT
BAILEY CT
BANDHOLTZ CT
BROWN CT
WAHL CT
MACARTHUR DR
VINEYARD CT
SAN PABLO CT
KUMWHA CT
FREEDOM CT
CHOSIN CT
32ND REGIMENT CT
31ST REGIMENT CT
HORN CT
PRESTON DR
LANDRUM CT
ARNOLD CT
STEWART CT
READY CT
BARTH CT
ABRAMS DR
BAYONET CT
BAYONET CIR
IMJIN PKWY
MARINA PUBLIC AIRFIELD

Legend

- Roads
- Former Fort Ord Boundary
- Carbon Tetrachloride (0.50 ug/L) 2017-3Q
- Groundwater Elevation (ft MSL) 2017-3Q
- Buildings

OUCTP Upper 180-Foot Aquifer Well Type

- Extraction Well
- Monitoring Well
- Multi-Port Well (Westbay)
- Monitoring Well - To Decommission

N

0 250 500 1,000 Feet

OUCTP Upper 180-Foot Aquifer Monitoring Wells to Decommission in 2018

Well Decommissioning
Work Plan
Former Fort Ord, California

Ahtna

Figure: 4